IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1.   (Previously Presented) A ranging apparatus which determines distances to objects by using planar positions of said objects in images which are obtained by plural image acquiring means comprising:

plural cameras that function as said plural image acquiring means,

plural distortion correction means to correct distortion of images taken by said cameras wherein said plural distortion correction means progressively determine ranging distances of a target object,

a corrective computation means which generates corrected images by using said distortion correction means, being corrected for eliminating distortion caused by optical systems used for said cameras, corresponding to said progressively determined ranging distances in which said images are taken by said image acquiring means,

a corrected image selection means which selects a most appropriately corrected image among said corrected images and;

a ranging computation means which computes a distance to said object viewed in said corrected image selected by said corrected image selection means.

2.   (Previously Presented) A ranging apparatus according to Claim 1, wherein

said corrected image selection means selects a corrected image which has best coincidency between said object specified in reference images which are corrected images, being generated by said corrective computation means, of said acquired images taken by one of said cameras and said object specified in comparison images which are corrected images, being generated by said corrective computation means, of said acquired images taken by another of said cameras,

of which said coincidency is evaluated for picture elements that compose an image of said object in said reference image against an image of said object that is searched over picture

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elements, being included in said comparison image, corresponding to an area shifted by a parallax to said object given for said progressively determined ranging distance in which said reference image and said comparison image are generated.

3. (Previously Presented) A ranging method which determines distances to objects by using planar positions of said objects in images which are obtained by cameras comprising:

a first step wherein said cameras take images of a target object,

a second step wherein plural corrected images are generated from images acquired by said cameras after eliminating distortion caused by optical systems of said cameras, wherein said distortion is computed by plural distortion correction means which progressively determine ranging distances of said object,

a third step wherein a corrective image is selected among plural corrective images generated in said second step; and

a fourth step wherein ranging distance to said object in said corrected image selected in said third step is computed.

4. (Previously Presented) A ranging program by which a computer system determines distances to objects by using planar positions of said objects in images which are obtained by cameras, wherein said ranging program includes operations of:

correcting distortion of images taken by cameras using plural distortion correction means, wherein said plural distortion correction means progressively determine ranging distances of a target object,

generating corrected images using said distortion correction means, being corrected for eliminating distortion caused by optical systems of said cameras, corresponding to said progressively determined ranging distances in which said images are taken by said cameras,

selecting a most appropriately corrected image among said corrected images and;

computing a distance to said object viewed in said selected corrected image.

5. (Previously Presented) A ranging method according to Claim 3, wherein;

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9.   (Previously Presented) A ranging method according to Claim 3, wherein said distortion correction means comprise a distortion correction table prepared in advance for said cameras.

10.   (Previously Presented) A ranging method according to Claim 3, wherein said distortion correction means comprise distortion correction tables prepared in advance for said cameras, respectively.

11.   (Previously Presented) A ranging program according to Claim 4, wherein said distortion correction means comprise a distortion correction table prepared in advance for said cameras.

12.   (Previously Presented) A ranging program according to Claim 1, wherein said distortion correction means comprise distortion correction tables prepared in advance for said cameras, respectively.

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said third step involves selecting a corrected image which has best coincidency between said object specified in reference images which are corrected images, being generated in said second step, of said images taken by one of said cameras in said first step and said object specified in comparison images which are corrected images, being generated in said second step, of said images taken by another of said cameras,

of which said coincidency is evaluated for picture elements that compose an image of said object in said reference image against an image of said object that is searched over picture elements, being included in said comparison image, corresponding to an area shifted by a parallax to said object given for said progressively determined ranging distance in which said reference image and said comparison imags are generated.

6.   (Previously Presented) A ranging program according to Claim 4, wherein;

said selecting operation selects a corrected image which has best coincidency between said object specified in reference images which are corrected images, being generated in said generating operation, of said images taken by one of said cameras and said object specified in comparison images which are corrected images, also generated in said generating step, of said images taken by another of said cameras,

of which said coincidency is evaluated for picture elements that compose an image of said object in said reference image against an image of said object that is searched over picture elements, being included in said comparison image, corresponding to an area shifted by a parallax to said object given for said progressively determined ranging distance in which said reference image and said comparison image are generated.

7.   (Previously Presented) A ranging apparatus according to Claim 1, wherein said distortion correction means comprise a distortion correction table prepared in advance for said cameras.

8.   (Previously Presented) A ranging apparatus according to Claim 1, wherein said distortion correction means comprise distortion correction tables prepared in advance for said cameras, respectively.

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